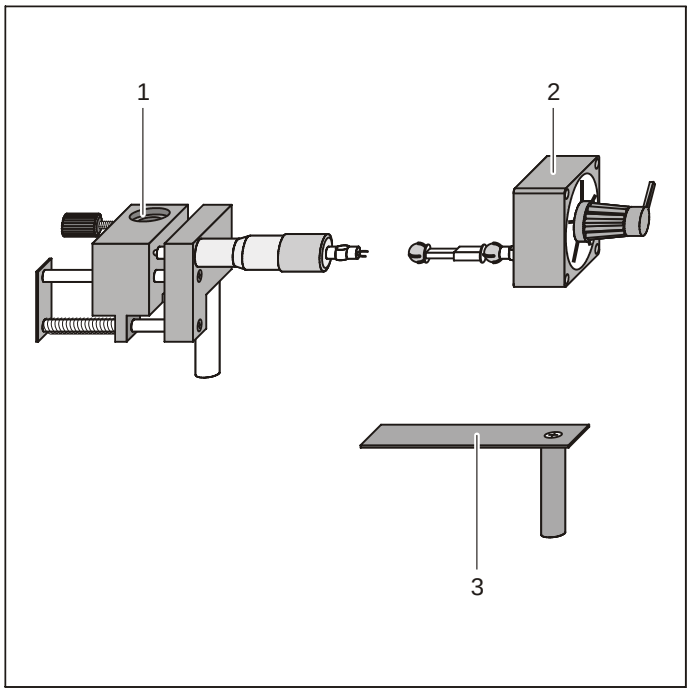
Lehr– und Didaktiksysteme
LD Didactic GmbH
Leyboldstrasse 1 · D-50354 Huerth

07/05-W97-Sel



Operating instructions 473 48

Fine adjustment drive (473 48)

1 Shifting unit with micrometer screw
2 Gearbox for gearing down
3 Gearbox support

1 Description

The fine adjustment drive allows the defined shifting of a planar mirror (473 461) and of other objects with a suitable stem, e.g. for interferometric determination of the wavelength of laser light.

For setting up on the base plate for laser optics (473 40) two optics bases (473 421) are required.

2 Scope of delivery

1 Shifting unit with micrometer screw
1 Gearbox for gearing down 100 : 1
1 Gearbox support

3 Technical data

Shifting unit with micrometer screw:

Feed:	0.5 mm / turn
Lift:	max. 25 mm
Division:	0.01 mm
Stem:	Ø 12 mm

Gearbox for gearing down:

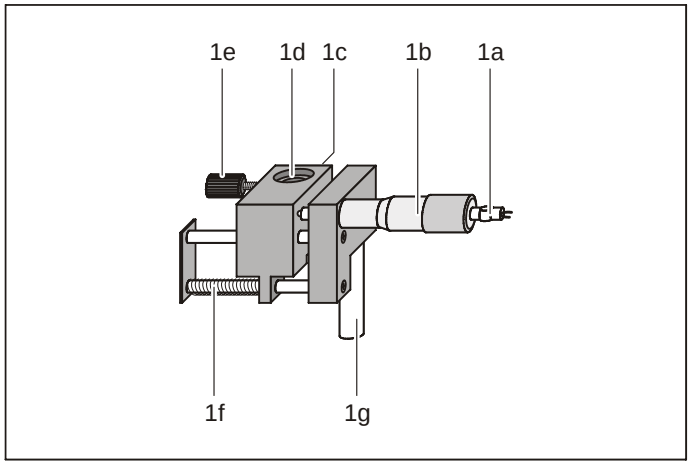
Gearing factor:	100 : 1
Transmission:	Universal joint

Gearbox support:

Plate:	11 cm × 3 cm
Stem:	Ø 10 mm

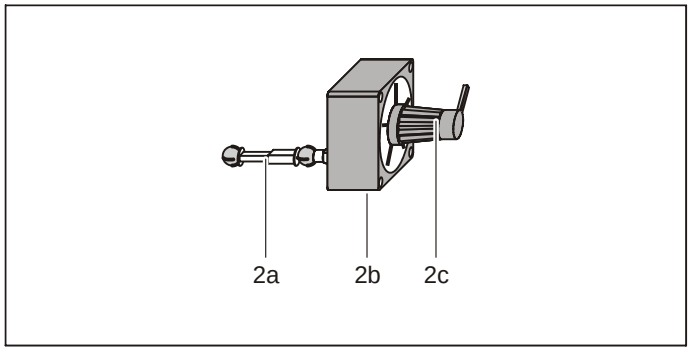
4 Components

Shifting unit with micrometer screw:



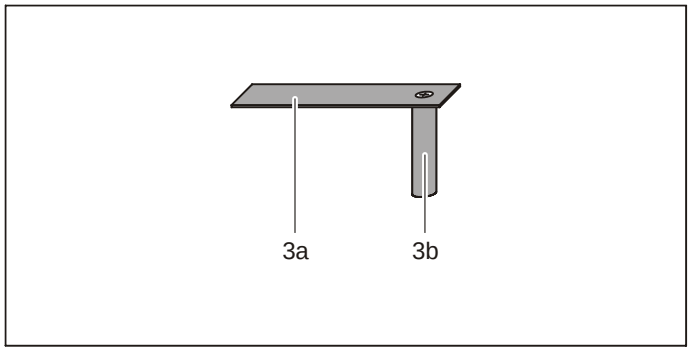
1a swivel head
1b micrometer screw
1c horizontal hole
1d vertical hole
1e thumb screw
1f return spring
1g stem

Gearbox for gearing down:



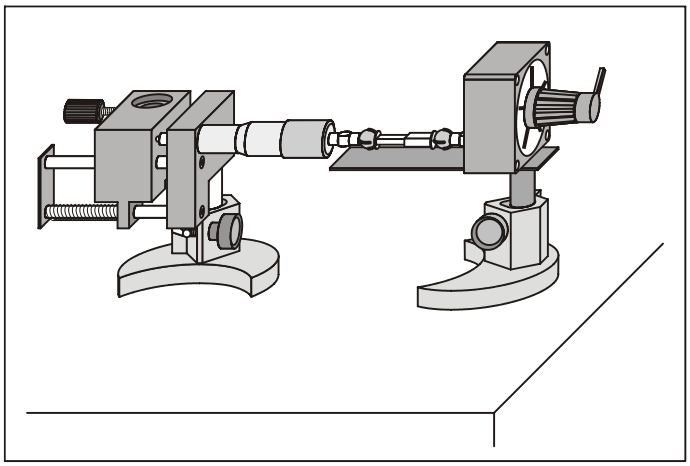
2a universal joint
2b attachment magnet strip
2c rotary button with lever

Gearbox support:



3a support plate
3b stem

5 Setting up on the base plate for laser optics



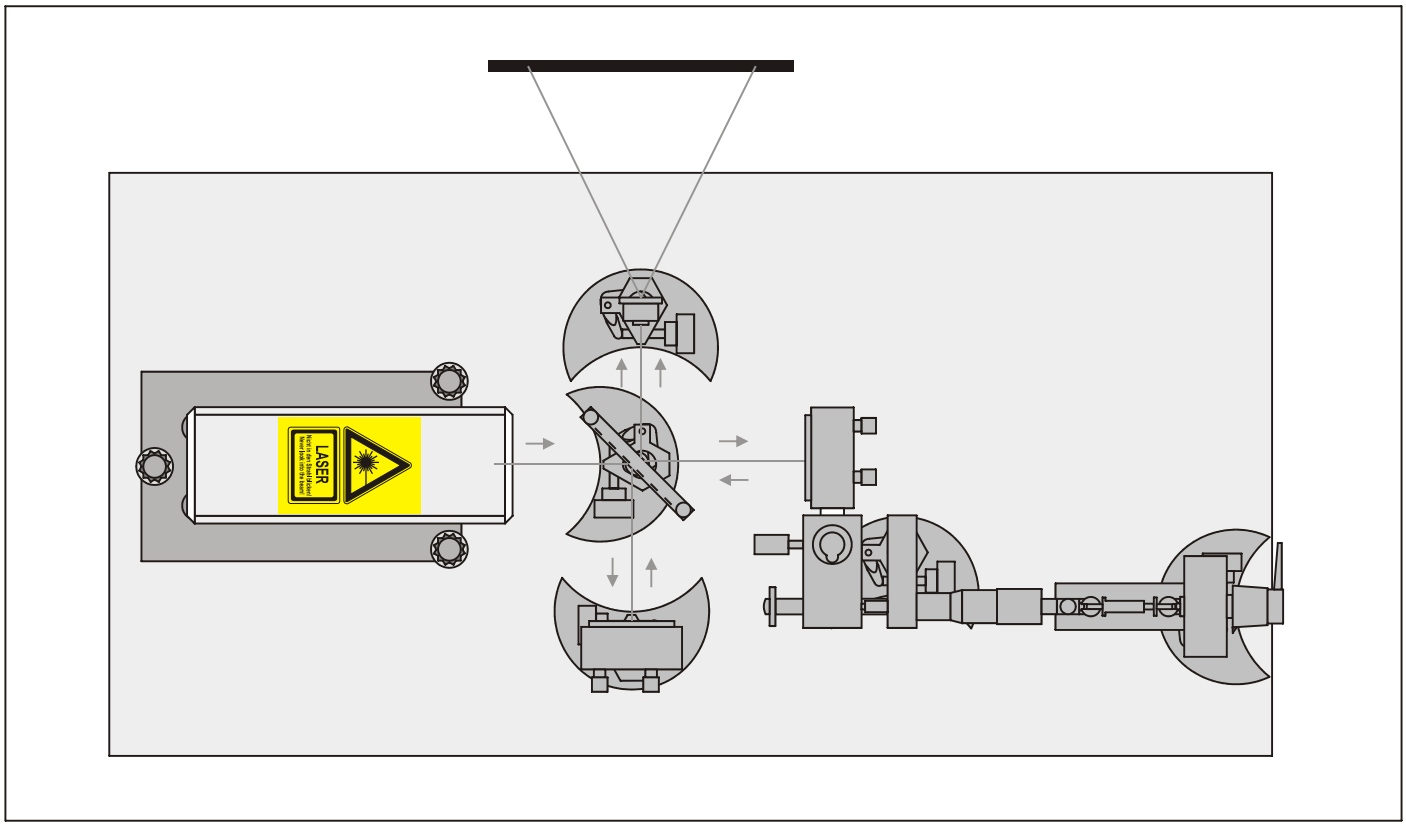
– Fix the shifting unit and the gearbox support into an optics base (473 421).
– With the magnet strip pointing downwards attach the gearbox onto the gearbox support.
– Carefully clamp the coupling to the joint head on the fine adjustment drive.
– Choose the position of the gearbox for gearing down so that the coupling rods are neither fully extended nor pushed together and so that the angle between the elements of the universal joint is as small as possible (and never larger than 45°).

6 Note

Because the gearbox for gearing down with the universal joint has an "inactive" gear approx. 6 rotations of the gear button are necessary when the direction of rotation is changed until the clamped component is shifted.

7 Operation

(Setting up a Michelson interferometer with movable planar mirror)



– Set up the experimental setup and attach the planar mirror (473 461) in the horizontal hole.
– Check the alignment of the planar mirror and readjust if necessary.
– Slowly and uniformly adjust the gearbox button by gently placing the finger onto the lever of the gearbox and in this way shift the planar mirror by approx. 0.005 mm per rotation.
– Before starting the measurement make at least seven turns with the gearbox button.
– If the movement of the planar mirror is jerky, lubricate the sleeve of the fine adjustment drive with silicone oil.

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